



NATIONAL SCIENCE FOUNDATION

ARLINGTON, VA 22230

HIGHER EDUCATION RESEARCH AND DEVELOPMENT SURVEY FY 2009

INTRODUCTION

This survey collects data on research and development (R&D) activities at higher education institutions. Previously this collection was known as the Survey of Research and Development Expenditures at Universities and Colleges. The revised name reflects the survey's expanded focus on measures of R&D activities in addition to expenditures. All questions refer to R&D activities and expenditures within your institution's 2009 fiscal year.

General survey definitions and instructions are provided on pages 2 and 3.

YOUR SURVEY PARTICIPATION

Your participation in this survey provides important information on the national level of research activity. NSF is authorized to collect this information under the National Science Foundation Act of 1950, as amended. Your institution's response is entirely voluntary; your failure to provide some or all of the information will in no way adversely affect your institution.

QUESTIONS?

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TBD
Westat
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1-800-937-8281

Response to this survey is estimated to require (TBD) hours. If you wish to comment on this burden, please contact Suzanne H. Plimpton of NSF at (703) 292-7556, or e-mail splimpto@nsf.gov.

Please submit your survey data by January 29, 2010.

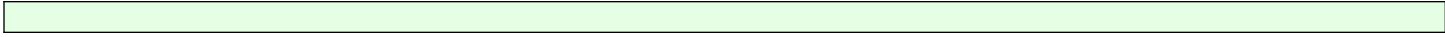
The web address for submitting your data:

<http://www.nsfherdsurvey.org>

Or mail this form to:

ATTN: NSF HERD Survey
Westat
1650 Research Blvd. Room TA2062
Rockville, MD 20850

Thank you for your participation.



Survey Definitions and Instructions

Research and development (R&D)

includes “organized research” as defined by **2 CFR 220 (OMB Circular A-21)**. Please include all R&D activities of an institution that are ***separately budgeted and accounted for*** (see definition below). R&D includes both “sponsored research” activities (sponsored by Federal and non-Federal agencies and organizations) and “university research” (separately budgeted under an internal application of institutional funds).

Research

is the systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

Basic research – is research directed toward an increase of knowledge; it is research where the primary aim of the investigator is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.

Applied research – is research conducted to gain the knowledge or understanding to meet a specific, recognized need.

Development

is the ***systematic*** use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

Separately budgeted R&D

includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution.

Current fund expenditures

are expenditures of funds available for current operations. Such expenditures include, among others, all those funded from unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.

Change to fields of R&D included in survey items

Please note that this revised questionnaire includes all fields of R&D in all survey items. Responses to all survey items should include R&D within science and engineering fields as in the past, and also should include R&D within all other fields such as humanities, education, law, and the arts. See question 9 for a complete listing of all fields of R&D.

Please include	Please do not include
<ul style="list-style-type: none"> • Direct and indirect costs • Research equipment purchased from “current fund” accounts • Research funds passed through to a subrecipient organization, educational or other • Clinical trial research expenditures (for Phases I, II, and III) • Research training grants (such as NIH K awards and T32 grants) 	<ul style="list-style-type: none"> • Non-research training grants • Public service grants • Demonstration projects • Departmental research expenditures that are not separately budgeted • Research conducted by university faculty or staff at outside institutions that is not accounted for in your financial records • Phase IV clinical trial expenditures

Please include these components of your institution	Please do not include
<ul style="list-style-type: none"> • All branches of your institution included in or with your financial statements or notes to your financial statements, such as <ul style="list-style-type: none"> ◦ Agricultural experiment stations ◦ Medical schools ◦ Hospitals or clinics integrated operationally with the clinical programs of your medical school ◦ Research centers and facilities ◦ A university 501(c)3 research foundation 	<ul style="list-style-type: none"> • Federally funded R&D centers (FFRDCs). This information is collected separately. • Other organizations or institutions, such as teaching hospitals or research institutes, with which your institution has an affiliation or relationship, but which are <u>not</u> components of your institution.

NOTE: All financial data should be reported in thousands of dollars; for example, an expenditure of \$25,342 should be rounded to the nearest thousand and reported as \$25.

Question 1. How much of your total current fund expenditures for separately budgeted research and development (R&D) came from the following sources in FY 2009? (See definition of R&D on previous pages.)

- Include both **direct** and **recovered indirect costs** in rows a, b, c, d, and f.
- Report the **original source** of funds, when possible. For example, if you received **federal** funds from another university, report that amount under "U.S. federal government."
- Include all fields of R&D: sciences, engineering, humanities, education, law, arts, etc. See full listing in Question 9.

SOURCE OF FUNDS	R&D Expenditures (Dollars in thousands)
<p>a. U.S. federal government Any agency of the United States government.</p>	\$ _____
<p>b. State and local government Any state, county, municipality, or other local government entity in the United States, including state health agencies. Include state funds that support R&D at agricultural and other experiment stations.</p>	\$ _____
<p>c. Industry Domestic or foreign for-profit organizations. (Report funds from a company's nonprofit foundation in row d.)</p>	\$ _____
<p>d. Nonprofit organizations and donors Nonprofit foundations and organizations; gifts from individuals restricted for research purposes.</p>	\$ _____
<p>e. Institutional funds</p>	
<p>1. Institutionally financed organized research Include direct expenditures allocated for separately-budgeted organized research. Include funds from unrestricted sources such as:</p> <ul style="list-style-type: none"> • General-purpose state and local government appropriations • General-purpose awards from industry, foundations, etc. • Tuition and fees • Endowment income and unrestricted gifts • Other institutional funds, such as recovered indirect costs 	\$ _____ (Confidential ¹)
<p>2. Cost sharing Include mandatory and voluntary cost sharing other than unrecovered indirect costs. Report unrecovered indirect costs in row e3.</p>	\$ _____ (Confidential ¹)
<p>3. Unrecovered indirect costs You may calculate this amount as follows for your externally funded R&D (preferably on a project-specific basis) using the appropriate cost rate—on-campus, off-campus, etc.</p> <ul style="list-style-type: none"> • First, multiply the <u>negotiated</u> rate by the corresponding base. • Second, subtract recovered indirect costs. 	\$ _____ (Confidential ¹)
<p>4. Total institutional funds</p>	\$ TOTAL <input style="width: 100px; height: 20px;" type="text"/>
<p>f. All other sources Other sources not reported above, such as funds from foreign governments.</p>	\$ _____
<p>g. Total ²</p>	\$ TOTAL <input style="width: 100px; height: 20px;" type="text"/>

¹ Information from confidential items is NOT published or released for individual institutions; only aggregate totals will appear in publications.

² Row and column totals are automatically generated on the web survey.

Question 2. How much of the total R&D expenditures reported in Question 1, rows c, d, and f came from **foreign sources**?

- Foreign sources include foreign governments, industry, and nonprofit organizations located outside the U.S.
- In deciding whether to classify a source as foreign, use the address where the project award originated. Foreign sources do not include Puerto Rico or other territories of the United States.

R&D Expenditures
(Dollars in thousands)

Total R&D expenditures from foreign sources

\$ _____

Question 3. Of the total R&D expenditures reported in Question 1, row g, how much was expended for R&D projects in your medical school?

If your institution does **not** have a medical school (that is, a school that awards the M.D. or D.O. degree), check here and go to Question 4.

- In determining which expenditures to report for your medical school, include projects for which the principal investigator's primary appointment is in your medical school.

R&D Expenditures
(Dollars in thousands)

Total R&D expenditures in the university's medical school

\$ _____

Question 4. Of the total R&D expenditures reported in Question 1, row g, how much was expended for Phase I, Phase II, and Phase III clinical trials? Do not include expenditures for Phase IV clinical trials.

R&D Expenditures
(Dollars in thousands)

Total R&D expenditures for clinical trials

\$ _____

Question 5. Of the total R&D expenditures that were externally funded (all sources other than Institutional funds), how much was received under each of the following types of agreements?

R&D Expenditures
(Dollars in thousands)

- | | |
|---|---|
| a. Contracts (including prime and subcontracts) | \$ <input style="width: 80%;" type="text"/> |
| b. Grants, reimbursements, and all other agreements | \$ <input style="width: 80%;" type="text"/> |
| c. Total ¹ | \$ <u>TOTAL</u> |

Total should match Question 1, row g minus row e4.

¹ Row and column totals are automatically generated on the web survey.

Question 6. What amounts of your FY 2009 R&D expenditures were for basic research, applied research, and development? Please report this information for federal funds and total funds.

R&D Expenditures

(1) (2)
Federal Total
(Dollars in thousands)

- | | | |
|--|---|---|
| <p>a. Basic research
Research directed toward an increase of knowledge; it is research where the primary aim of the investigator is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.</p> | \$ <input style="width: 80%;" type="text"/> | \$ <input style="width: 80%;" type="text"/> |
| <p>b. Applied research
Research conducted to gain the knowledge or understanding to meet a specific, recognized need.</p> | \$ <input style="width: 80%;" type="text"/> | \$ <input style="width: 80%;" type="text"/> |
| <p>c. Development
The systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.</p> | \$ <input style="width: 80%;" type="text"/> | \$ <input style="width: 80%;" type="text"/> |
| <p>d. Total¹</p> | \$ <u>TOTAL</u> | \$ <u>TOTAL</u> |

Column 1 total should match Question 1, row a; Column 2 total should match Question 1, row g.

¹ Row and column totals are automatically generated on the web survey.

Question 7. How much of your total and federal R&D expenditures reported in Question 1, rows a and g, did your institution **receive as a subrecipient**?

The **subrecipient** for an award carries out the work but receives the funds from a pass-through entity rather than directly from the original funding source. See OMB Circular A-133, Section 105 for the federal definition. Subrecipients tend to be the co-authors of publications, writers of technical reports discussing findings, inventors, etc.

Do **not** include vendor relationships. A vendor supplies goods and services. See OMB Circular A-133, Section 210.

Source of pass-through funding	R&D expenditures	
	(1) Federal (Dollars in thousands)	(2) Total (Dollars in thousands)
a. From higher education institutions Academic colleges and universities and units owned, operated, and controlled by such institutions.	\$ _____	\$ _____
b. From other sources	\$ _____	\$ _____
c. Total ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹ Row and column totals are automatically generated on the web survey.

Question 8. How much of your total and federal R&D expenditures reported in Question 1, rows a and g, were **passed through by your institution** to subrecipients?

Type of subrecipient	R&D expenditures	
	(1) Federal (Dollars in thousands)	(2) Total (Dollars in thousands)
a. To higher education institutions Academic colleges and universities and units owned, operated, and controlled by such institutions.	\$ _____	\$ _____
b. To other organizations	\$ _____	\$ _____
c. Total ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹ Row and column totals are automatically generated on the web survey.

Question 9. What were your FY 2009 R&D expenditures for the federal agencies below in each field of R&D? (Expenditures funded by nonfederal sources will be reported in Question 12.)

- The total for the last row (row K, page 13) should match total federal sources reported in Question 1, row a.
- Examples of the disciplines included in each field are listed below.
- If an individual project involves more than one of the 36 fields of R&D, please prorate expenditures when possible and report the amount for each field involved. (Note: Question 10 asks for expenditures for interdisciplinary and multidisciplinary R&D regardless of whether you prorate the expenditures.)

R&D Fields	Federal departments and agencies ¹							TOTAL ²
	(a) USDA	(b) DoD	(c) DOE	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	
A. ENGINEERING (Dollars in thousands)								
1. Aeronautical/ Astronautical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
2. Bioengineering/ Biomedical eng.	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
3. Chemical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
4. Civil	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
5. Electrical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
6. Mechanical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
7. Metallurgical/ Materials	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
8. Other engineering	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
9. TOTAL ²	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹ **KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Engineering Fields of R&D

1. Aeronautical/ astronautical

Aerodynamics
Aerospace engineering
Space technology

2. Bioengineering/biomedical engineering

Biomaterials
Biomechanics
Medical instrumentation
Neuroengineering

3. Chemical

Petroleum
Petroleum refining process
Plastics
Polymer
Wood science

4. Civil

Architectural
Architecture
Environmental
Environmental Health
Geotechnical
Hydraulic
Hydrologic
Sanitary
Structural
Transportation

5. Electrical

Communication
Computer
Electronics
Power

6. Mechanical

Mechanics

7. Metallurgical/Materials

Ceramic
Geological
Geophysical
Materials science
Metallurgy
Mining and mineral
Textile
Welding

8. Other engineering

Agricultural
Engineering design
Engineering management
Engineering physics
Engineering science

8. Other engineering (cont.)

Industrial
Industrial management
Manufacturing
Marine
Naval architecture
Nuclear
Ocean
Systems
Other engineering fields not listed separately above

9. Total engineering

Sum of entries in each column for rows A1 to A8

Question 9. (continued)

R&D Fields	Federal departments and agencies ¹							TOTAL ²
	(a) USDA	(b) DoD	(c) DOE	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	

B. PHYSICAL SCIENCES

(Dollars in thousands)

1. Astronomy	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
2. Chemistry	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
3. Physics	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
4. Other physical sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
5. TOTAL ²	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹ **KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Physical Sciences Fields of R&D

<p>1. Astronomy</p> <ul style="list-style-type: none"> Astrophysics Gamma-ray astronomy Neutrino astronomy Optical astronomy Radio astronomy X-ray astronomy 	<p>2. Chemistry (except biochemistry—see Biological sciences)</p> <ul style="list-style-type: none"> Analytical chemistry Inorganic chemistry Organic chemistry Organo-metallic chemistry Pharmaceutical chemistry Physical chemistry Polymer sciences 	<p>3. Physics</p> <ul style="list-style-type: none"> Acoustics Atomic physics Chemical physics Condensed matter physics Elementary particle physics Mathematical physics Molecular physics Nuclear structure Optics Plasma physics Theoretical physics 	<p>4. Other physical sciences</p> <p>Other physical sciences not listed separately above</p> <p>5. Total for physical sciences</p> <p>Sum of entries in each column for rows B1 to B4</p>
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Question 9. (continued)

R&D Fields	Federal departments and agencies ¹							(h) TOTAL ²
	(a) USDA	(b) DoD	(c) DOE	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	
C. ENVIRONMENTAL SCIENCES								
(Dollars in thousands)								
1. Atmospheric	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Earth sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Oceanography	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other environ. sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ²	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
D. MATHEMATICAL SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
E. COMPUTER SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL

¹ **KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Environmental Sciences, Mathematics, and Computer Science Fields of R&D

<p>ENVIRONMENTAL SCIENCES</p> <p>1. Atmospheric sciences</p> <ul style="list-style-type: none"> Aeronomy Extraterrestrial atmospheres Meteorology Weather modification 	<p>ENVIRONMENTAL SCIENCES (CONTINUED)</p> <p>2. Earth sciences</p> <ul style="list-style-type: none"> Cartography Earth and planetary sciences Geochemistry Geodesy and gravity Geology Geomagnetism Geophysics Hydrology Paleomagnetism Paleontology 	<p>ENVIRONMENTAL SCIENCES (CONTINUED)</p> <p>3. Oceanography</p> <ul style="list-style-type: none"> Biological oceanography Chemical oceanography Geological oceanography Physical oceanography Marine oceanography <p>4. Other earth, atmospheric, and ocean sciences</p> <ul style="list-style-type: none"> Other environmental sciences not listed 	<p>D. MATHEMATICAL SCIENCES</p> <ul style="list-style-type: none"> Algebra Analysis Applied mathematics Foundations and logic Geometry Mathematical statistics Numerical analysis Operations research Topology <p>E. COMPUTER SCIENCES</p>
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	Physical geography Earth and planetary sciences Seismology Surveying	separately above 5. Total for environmental sciences Sum of entries in each column for rows C1 to C4	Computer systems analysis Data processing Information sciences Information technology Management information systems
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Question 9. (continued)

R&D Fields	Federal departments and agencies ¹							(h) TOTAL ²
	(a) USDA	(b) DoD	(c) DOE	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	
F. LIFE SCIENCES								
(Dollars in thousands)								
1. Agricultural	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Biological	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Medical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other life sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ²	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL

¹ **KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Life Sciences Fields of R&D

1. Agricultural sciences	Biological sciences (continued)	Medical sciences (continued)	Medical sciences (continued)
Agricultural chemistry Agricultural economics — see Social sciences, Economics Agricultural engineering — see Engineering Agricultural production Agronomy Animal science Aquaculture Conservation Fish and wildlife Forestry Horticulture International agriculture Landscape architecture Plant sciences Renewable natural resources Soil science	Botany Cellular biology Ecology Entomology Epidemiology Foods and nutrition studies Genetics, plant and animal Medical microbiology Medical pathology Medical physiology Medical toxicology Medical anatomy Medical biochemistry Medical immunology Microbiology Molecular biology Nutritional sciences Parasitology Pathology, human and animal Pharmacology, human and animal Physical anthropology Physiology, human and animal Toxicology Virology Zoology	Dentistry Dermatology Family medicine Gastroenterology General surgery Geriatric medicine Gynecology Hematology Internal medicine Mental Health Neonatal-perinatal medicine Neurological surgery Neurology Neurosciences Nuclear medicine Nuclear radiology Obstetrics Oncology Ophthalmology Optometry Oral surgery Orthopedic surgery Orthopedics Osteopathic medicine Otorhinolaryngology Pediatrics Pharmacology	Psychiatric nursing Psychiatry Public health Radiation biology/ Radiobiology Thoracic surgery Urology Veterinary medicine <i>(See note below)</i>
2. Biological sciences Allergies and immunology Anatomy Bacteriology Biochemistry Biogeography Biology, general			4. Other life sciences Gerontology Communication disorders sciences and services Health and medical administrative services Health laboratory technologies Health professions and related services, other Medical laboratory technologies Nursing technologies Occupational therapy Physical therapy Rehabilitation services Therapeutic services

Biometrics Biophysics Biostatistics Biotechnology	3. Medical sciences Anesthesiology Cardiology Colon and rectal surgery Dental surgery	Pharmacy Physical and rehabilitative medicine Plastic surgery Podiatry Preventive medicine	Other life sciences not listed separately above 5. Total for life sciences Sum of entries in each column for rows F1 to F4
Note: Institutions with schools of veterinary medicine should distribute R&D among the appropriate disciplines (e.g., agricultural, medical, and biological) rather than only in medical sciences.			

Question 9. (continued)

R&D Fields	Federal departments and agencies ¹							(h) TOTAL ²
	(a) USDA	(b) DoD	(c) DOE	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	
(Dollars in thousands)								
G. PSYCHOLOGY	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
H. SOCIAL SCIENCES								
1. Economics	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Political science	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Sociology	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other social sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. Total ²	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
I. OTHER SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL

¹ KEY: USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Psychology and Social Sciences Fields of R&D

<p>G. PSYCHOLOGY Animal behavior Clinical psychology Educational psychology Experimental psychology Human development and personality School psychology Social psychology</p> <p>H. SOCIAL SCIENCES</p> <p>1. Economics</p> <p>Agricultural economics Applied economics Business development Econometrics Industrial economics International economics Labor economics Managerial development Public finance and fiscal policy Quantitative economics Resource economics</p>	<p>SOCIAL SCIENCES (CONTINUED)</p> <p>2. Political science</p> <p>Comparative government Government International relations and affairs Legal systems Political theory Public administration Public policy analysis Regional studies</p> <p>3. Sociology</p> <p>Anthropology (social and cultural only) Comparative and historical sociology Complex organizations Cultural and social structure Demography Group interactions Population studies Social problems and welfare theory</p>	<p>SOCIAL SCIENCES (CONTINUED)</p> <p>4. Other social sciences</p> <p>Archaeology Area and ethnic studies City and community planning Community services Corrections Criminal justice Geography History of science Linguistics Urban and regional planning Urban affairs Urban studies</p> <p>5. Total for social sciences Sum of entries in each column across rows H1 to H4</p>	<p>I. OTHER SCIENCES</p> <p>Use this category when multidisciplinary, interdisciplinary, or other aspects make classification under one of the primary S&E fields (rows A to H) impossible</p>
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Question 9. (continued)

		Federal departments and agencies ¹							
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
R&D Fields		USDA	DoD	DOE	HHS, includes NIH	NASA	NSF	Other	TOTAL ²
J. NON-SCIENCE & ENGINEERING (NON S&E) FIELDS									
(Dollars in thousands)									
1. Education	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
2. Law	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
3. Humanities	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
4. Visual and performing arts	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
5. Business and management	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
6. Communication, journalism, and library science	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
7. Social work	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
8. Other non-S&E fields	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
9. TOTAL ²	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
K. TOTAL FOR ALL FIELDS OF R&D ²									
	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

Total for row K, column h should equal Total for Question 1, row a.

¹ **KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" includes all other federal agencies.

² Row and column totals are automatically generated on the web survey.

Examples of Disciplines: Non-Science & Engineering (Non S&E) Fields of R&D

<p>1. Education (no specific examples)</p> <p>2. Law Legal studies</p> <p>3. Humanities Foreign languages and literature English language and literature Letters Liberal arts and sciences General studies and humanities Philosophy and religion</p>	<p>Humanities (continued) Theological studies and religious vocations History (except history of science—see Other social sciences)</p> <p>4. Visual and performing arts (no specific examples)</p> <p>5. Business and management Business management and administrative services Marketing operations Marketing distribution</p>	<p>6. Communication, journalism, and library science Communications Library science Communications technologies</p> <p>7. Social work (no specific examples)</p> <p>8. Other non-S&E fields Parks, recreation, leisure and fitness studies Military technologies Other non S&E fields not listed separately above</p>	<p>9. Total for Non-S&E Sum of entries in each column for rows 1 to J8</p> <p>K. TOTAL FOR ALL FIELDS OF R&D Sum of all rows for Question 9. The total for row K, column h should equal the total for Question 1, row a</p>
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Question 10. Of the total R&D expenditures from “other” federal sources reported in Question 9 (row K, column g), which agencies funded this R&D and how much of the reported amount was from each agency?

Federal agency

**R&D Expenditures
(Dollars in thousands)**

a.	<input type="text"/>	\$ <input type="text"/>
b.	<input type="text"/>	\$ <input type="text"/>
c.	<input type="text"/>	\$ <input type="text"/>
d.	<input type="text"/>	\$ <input type="text"/>
e.	<input type="text"/>	\$ <input type="text"/>
f.	<input type="text"/>	\$ <input type="text"/>
g.	Total (should match Question 9, row K, column g.)	\$ <u>TOTAL</u>

Question 11. How much of the federal R&D expenditures reported in Question 9, row K, column h, was for interdisciplinary or multi-disciplinary projects?

Report **interdisciplinary or multi-disciplinary projects** that involve two or more of the 36 fields of R&D in Question 9.

**R&D Expenditures
(Dollars in thousands)**

Total R&D expenditures from federal sources for interdisciplinary or multidisciplinary projects	\$ <input type="text"/>
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Question 12. What were your FY 2009 R&D expenditures for the nonfederal sources below in each field of R&D?

- The total for each column in row K should match the corresponding sources reported in Question 1.
- If an individual project involves more than one of the 36 fields of R&D, please prorate expenditures when possible and report the amount for each field involved. (Note: Question 13 asks for expenditures for interdisciplinary and multidisciplinary R&D regardless of whether you prorate the expenditures.)

R&D Fields	Nonfederal sources of funds					
	(a) State and local government	(b) Industry	(c) Nonprofit orgs. and donors	(d) Institutional	(e) Other sources	(f) TOTAL ¹
(Dollars in thousands)						
A. ENGINEERING						
1. Aeronautical/ Astronautical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Bioengineering/ Biomedical eng.	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Chemical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Civil	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. Electrical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
6. Mechanical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
7. Metallurgical/Materials	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
8. Other engineering	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
9. TOTAL ¹	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
B. PHYSICAL SCIENCES						
1. Astronomy	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Chemistry	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Physics	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other physical sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ¹	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
C. ENVIRONMENTAL SCIENCES						
1. Atmospheric	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Earth sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Oceanography	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other environmental sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ¹	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL

¹ Row and column totals are automatically generated on the web survey.

Question 12. (continued)

R&D Fields	Nonfederal sources of funds					TOTAL ¹
	(a) State and local government	(b) Industry	(c) Nonprofit orgs. and donors	(d) Institutional	(e) Other sources	
	(Dollars in thousands)					
D. MATHEMATICAL SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
E. COMPUTER SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
F. LIFE SCIENCES						
1. Agricultural	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Biological	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Medical	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other life sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ¹	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
G. PSYCHOLOGY	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
H. SOCIAL SCIENCES						
1. Economics	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
2. Political science	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
3. Sociology	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
4. Other social sciences	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL
5. TOTAL ¹	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL	\$ TOTAL
I. OTHER SCIENCES	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ TOTAL

¹ Row and column totals are automatically generated on the web survey.

Question 12. (continued)

R&D Fields	Nonfederal sources of funds					TOTAL ¹
	(a) State and local government	(b) Industry	(c) Nonprofit orgs. and donors	(d) Institutional	(e) Other sources	
J. NON-SCIENCE & ENGINEERING (NON S&E) FIELDS						
(Dollars in thousands)						
1. Education	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
2. Law	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
3. Humanities	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
4. Visual and performing arts	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
5. Business and management	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
6. Communication, journalism, and library science	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
7. Social work	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
8. Other non-S&E fields	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ <u>TOTAL</u>
9. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
K. TOTAL FOR ALL FIELDS OF R&D ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

Totals for row K, should match corresponding sources in Question 1, rows b-f.

¹ Row and column totals are automatically generated on the web survey.

Question 13. How much of the nonfederal R&D expenditures reported in Question 12, row k, column f, was for interdisciplinary or multi-disciplinary projects?

Report **interdisciplinary or multi-disciplinary projects** that involve two or more of the 36 fields of R&D in Question 12.

R&D Expenditures
(Dollars in thousands)

Total R&D expenditures from nonfederal sources for interdisciplinary or multidisciplinary projects

\$ _____

Question 14. Of the total amount of R&D expenditures reported in Question 1, row g, what were the amounts for the following types of costs?

- Please include **only direct costs** in the numbers you report for each direct cost category. Recovered and unrecovered **indirect costs** should be reported in rows h and i.

DIRECT COSTS FROM ALL SOURCES		R&D Expenditures
		(Dollars in thousands)
a. Salaries and wages—compensation to full-time and part-time employees via the institution's payroll system.		\$ <input type="text"/>
b. Fringe benefits—sick leave and vacation; health insurance, workers' compensation, etc.; and employer contributions for Social Security, pension, or other retirement benefits.		\$ <input type="text"/>
c. Software purchases—all payments for software. Include both purchases of software packages and license fees for systems. Please distinguish between noncapitalized and capitalized software.		
1. Noncapitalized software		\$ <input type="text"/>
2. Capitalized software		\$ <input type="text"/>
d. Equipment other than software reported in row c—payments for movable equipment exceeding your institution's capitalization threshold. Include ancillary costs such as delivery and set-up.		\$ <input type="text"/>
e. Pass-throughs to other universities or organizations (should match the total in Question 8, row c, column 2)		\$ <input type="text"/>
f. Other direct costs—other costs that do not fit into one of the above categories, including (but not limited to) travel, services such as consulting, computer usage fees, and supplies.		\$ <input type="text"/>
g. Total Direct Costs		\$ <u>TOTAL</u>
INDIRECT COSTS		
h. Recovered indirect costs		\$ <input type="text"/> (Confidential ¹)
i. Unrecovered indirect costs (should equal Question 1, row e3)		\$ <input type="text"/> (Confidential ¹)
j. Total ² (should match total from Question 1, row g)		\$ <u>TOTAL</u>

¹ Information from confidential items is NOT published or released for individual institutions; only aggregate totals will appear in publications.

² Row and column totals are automatically generated on the web survey.

Question 15. At the end of FY 2009, what were your institution's capitalization thresholds in (a) dollars and (b) years of useful life for software and equipment?

	(1) Software	(2) Equipment
a. Dollar threshold	\$ <input type="text"/>	\$ <input type="text"/>
b. Years of useful life	<input type="text"/>	<input type="text"/>

Question 16. For the fields of R&D below, what portion of your FY 2009 current fund expenditures (federally financed and total) went for *the purchase of R&D equipment*?

R&D Fields	R&D Expenditures	
	(a)	(b)
	Federal	Total
	(Dollars in thousands)	
A. ENGINEERING		
1. Aeronautical/Astronautical	\$ _____	\$ _____
2. Bioengineering/Biomedical eng.	\$ _____	\$ _____
3. Chemical	\$ _____	\$ _____
4. Civil	\$ _____	\$ _____
5. Electrical	\$ _____	\$ _____
6. Mechanical	\$ _____	\$ _____
7. Metallurgical/Materials	\$ _____	\$ _____
8. Other engineering	\$ _____	\$ _____
9. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
B. PHYSICAL SCIENCES		
1. Astronomy	\$ _____	\$ _____
2. Chemistry	\$ _____	\$ _____
3. Physics	\$ _____	\$ _____
4. Other physical sciences	\$ _____	\$ _____
5. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
C. ENVIRONMENTAL SCIENCES		
1. Atmospheric	\$ _____	\$ _____
2. Earth sciences	\$ _____	\$ _____
3. Oceanography	\$ _____	\$ _____
4. Other environmental sciences	\$ _____	\$ _____
5. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

¹Totals are automatically generated on the web survey.

Question 15 (continued)

R&D Expenditures

R&D Fields	(a)	(b)
	Federal	Total
	(Dollars in thousands)	
D. MATHEMATICAL SCIENCES	\$ _____	\$ _____
E. COMPUTER SCIENCES	\$ _____	\$ _____
F. LIFE SCIENCES		
1. Agricultural	\$ _____	\$ _____
2. Biological	\$ _____	\$ _____
3. Medical	\$ _____	\$ _____
4. Other life sciences	\$ _____	\$ _____
5. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
G. PSYCHOLOGY	\$ _____	\$ _____
H. SOCIAL SCIENCES		
1. Economics	\$ _____	\$ _____
2. Political science	\$ _____	\$ _____
3. Sociology	\$ _____	\$ _____
4. Other social sciences	\$ _____	\$ _____
5. TOTAL ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>
I. OTHER SCIENCES	\$ _____	\$ _____

¹ Totals are automatically generated on the web survey.

Question 15 (continued)

R&D Expenditures

R&D Fields	(a) Federal (Dollars in thousands)	(b) Total
J. NON-SCIENCE & ENGINEERING (NON S&E) FIELDS		
1. Education	\$ _____	\$ _____
2. Law	\$ _____	\$ _____
3. Humanities	\$ _____	\$ _____
4. Visual and performing arts	\$ _____	\$ _____
5. Business and management	\$ _____	\$ _____
6. Communication, journalism, and library science	\$ _____	\$ _____
7. Social work	\$ _____	\$ _____
8. Other non-S&E fields	\$ _____	\$ _____
9. TOTAL ¹	\$ _____	\$ _____
K. TOTAL FOR ALL FIELDS OF R&D ¹	\$ <u>TOTAL</u>	\$ <u>TOTAL</u>

NOTE: Column 2 total should match Question 14, row d.

¹Totals are automatically generated on the web survey.

Question 17. Please report the total full-time equivalents (FTEs) allocated to R&D activities in FY 2009 for faculty and nonfaculty personnel at your institution, by field of R&D. If unable to classify R&D personnel by field of R&D, please use the academic department. Please include only the FTEs for which compensation (salary, wages) is included in the total R&D expenditures you reported in Question 14, row a.

Total FTEs allocated to R&D

R&D Fields	(1)	(2)
	Faculty Personnel with faculty status as designated by institution	Non-faculty Research associates, assistants, technicians, and support personnel who are not university faculty
A. ENGINEERING	<input type="text"/>	<input type="text"/>
B. PHYSICAL SCIENCES	<input type="text"/>	<input type="text"/>
C. ENVIRONMENTAL SCIENCES	<input type="text"/>	<input type="text"/>
D. MATHEMATICAL SCIENCES	<input type="text"/>	<input type="text"/>
E. COMPUTER SCIENCES	<input type="text"/>	<input type="text"/>
F. LIFE SCIENCES	<input type="text"/>	<input type="text"/>
G. PSYCHOLOGY	<input type="text"/>	<input type="text"/>
H. SOCIAL SCIENCES	<input type="text"/>	<input type="text"/>
I. OTHER SCIENCES	<input type="text"/>	<input type="text"/>
J. NON-SCIENCE & ENGINEERING (NON S&E) FIELDS	<input type="text"/>	<input type="text"/>
K. TOTAL FOR ALL FIELDS OF R&D ¹	TOTAL	TOTAL

¹Totals are automatically generated on the web survey.

Question 18. Please report the total **number of persons (headcount)** for whom you reported R&D FTEs in Question 17.

	(1) Faculty	(2) Nonfaculty	(3) Total ¹
R&D personnel (headcount)	<input type="text"/>	<input type="text"/>	<u>TOTAL</u>

¹Totals are automatically generated on the web survey.

Question 19. Of the total **number of persons (headcount)** reported in Question 18, how many are classified as postdoctoral researchers at your institution?

	(1) Faculty	(2) Nonfaculty	(3) Total ¹
Postdoctoral researchers (headcount)	<input type="text"/>	<input type="text"/>	<u>TOTAL</u>

¹Totals are automatically generated on the web survey.

Question 20. Please indicate below the number of R&D proposals submitted by your institution to government agencies, foundations, or other funding sources outside of your institution in FY 2009. Include grant or contract proposals and other documents or actions that involved application for R&D funding.

	Number
Proposals submitted in FY 2009	<input type="text"/>

Question 21. Please indicate below the number and dollar value (in thousands) of R&D projects awarded to your institution in FY 2009.

	(1) Number	(2) Dollars (in thousands)
R&D projects awarded in FY 2009	<input type="text"/>	\$ <input type="text"/>

Question 22. Of the total R&D project awards reported in Question 21, how many involved two or more higher education institutions? Please indicate the number and the dollar value (in thousands) of these collaborative project awards.

	(1) Number	(2) Dollars (in thousands)
Collaborative R&D awards	<input type="text"/>	\$ <input type="text"/>

Contact Information: Please complete the contact information for the person responsible for the survey and an alternate contact.		
	Primary contact	Alternate contact
Name	<input type="text"/>	<input type="text"/>
Title	<input type="text"/>	<input type="text"/>
Phone number	<input type="text"/>	<input type="text"/>
Fax number	<input type="text"/>	<input type="text"/>
Email address	<input type="text"/>	<input type="text"/>

Fiscal Year: In what month does your institution's 2009 fiscal year begin?

Additional Comments: Please add any comments here.